

**SJR**

**13**

**Shalon Szymanski**

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**From:** LIO Tok  
**Sent:** Monday, March 30, 2009 12:07 PM  
**To:** Michelle Sydeman; Shalon Szymanski  
**Subject:** FW: SJR-13 Written Testimony for Mar 30 RES Meeting

Hello Senate Resource Committee aides!

Can you ensure that Mr. Floyd's testimony is placed in the committee folders for SJR13? As you can see, Mr. Floyd emailed his testimony to all committee members' individual email addresses, but he would like to know that the testimony also resides in the committee folders. The SRES will hear SJR13 today at 330pm. Thank you kindly and I hope you both have a good week.

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**From:** J Floyd [<mailto:j.floyd.usaf.ret@hotmail.com>]  
**Sent:** Monday, March 30, 2009 11:59 AM  
**To:** Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins; Sen. Hollis French; Sen. Bert Stedman; Sen. Gary Stevens; Sen. Tom Wagoner  
**Cc:** LIO Tok; Sen. Albert Kookesh; Rep. Woodie Salmon  
**Subject:** SJR-13 Written Testimony for Mar 30 RES Meeting

Dear Sir/Ma'am

SJR-13 urges ratification of the international Law of the Sea Treaty (LOST). Of primary concern to many of the critics of this treaty is US sovereignty. I strongly urge the Alaskan Senate Resources Committee to investigate the arguments against LOST before recommending ratification of a treaty that would hold the same legal weight as the US Constitution and to investigate why attempts to ratify this treaty failed in 2004, and again in 2007.

Some of the more alarming revelations about this United Nations treaty came from the US Senate Committee on Foreign Relations itself in 2007. Entire news articles were written back then based on this information. I've included a transcript of Senator Vitter questioning United States Deputy Secretary of State John Negroponte and others for your consideration.

Thank you for the opportunity to provide input to those that represent the people of the great state of Alaska.

James Floyd  
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[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_senate\\_hearings&docid=f:45282.wais](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_senate_hearings&docid=f:45282.wais)

Transcript of Senator Vitter questions on Sep 27, 2007 in US Senate Committee on Foreign Relations

Participants:

--Deputy Secretary of Defense Gordon England

--United States Deputy Secretary of State John Negroponte

--John Bellinger III, Legal Adviser to the U.S. Secretary of State

--U.S. Sen. David Vitter

--Senator Webb, sitting for Joseph R. Biden, Jr-Chairman, Senate Foreign Relations Committee

[transcript follows]

Senator Webb. Senator Vitter.

Senator Vitter. Thank you all for being here and, more importantly, thank you all for your service.

My concerns about the treaty concern our military and our sovereignty. We have discussed, and you made a very important point earlier, that military activities are not subject to review by arbitration panels or the International tribunal of Law of the Sea under the treaty. However, I still have a significant outstanding concern that has not been addressed: Who decides what is, and what is not, a military activity?

Mr. Negroponte. We will decide that.

Senator Vitter. Where does----

Mr. Negroponte. We consider that within our sovereign prerogative.

Senator Vitter. Where does the treaty say that we determine what constitutes a military activity and that an arbitral body does not have the authority to rule on this as a term of the treaty?

Mr. England. My understanding, and I'll ask, I guess, my lower behind me, that that's in the treaty, that we make that determination and that's not subject to review by anyone else.

Senator Vitter. It's not in the treaty. I'd like to point you to Article 298(1)(B), where it simply says, ``Disputes concerning military activities are not subject to dispute resolution.'' What the treaty fails to address is who has the authority to determine what is and what is not in fact a military activity.

Mr. England. No; you're right. In my confusion, I believe as in the resolution, the basic consent that in 2003--is that correct--it went, came before the Senate, so that would be a provision of approval. So, we would reserve that right as part of our approval of this Convention. Have I said that right?

Senator Vitter. But that provision, which is in the Resolution of Ratification, is our language. This language is not included in the treaty. And the treaty says, specifically in article 309, that the treaty is the treaty; no reservations or exceptions may be made to the treaty's provisions. The fact that we are concerned enough about the issue of military activities that we've included it in the Resolution of Ratification only heightens my concern.

Mr. Bellinger. Could I take a crack at that?

Senator Vitter. Including an exception insisting that only we can define what constitutes military activities for our own military in the resolution simply serves to highlight that it's not in the treaty.

Mr. Bellinger. With respect to almost all treaties, there are vague terms in the treaties. And if they're not defined, then a country will take understandings as to how it understands certain terms to be accepted. And this is a regular thing that this committee does. So in this case, with military activities not defined in the treaty, it is up to the countries to decide what that is going to mean.

And in this case, we are sufficiently concerned that we want to make clear, that we decide, that we would put that in as an understanding, as part of the Senate's understanding. And this is a very common practice, almost all treaties that the Senate approves have got some understandings as to what the shared understanding between the Executive and the Senate is, with respect to particular terms.

Senator Vitter. Right. My point is, just because this may be our understanding, it does not necessarily follow that it is the understanding of other signatories to the treaty. Is that correct?

Mr. England. Can I ask the Admiral to make a comment, who's behind me, who is our legal counsel. Because I believe there are declarations that are allowed and this is one of the declarations. Could I have my legal just comment?

Senator Vitter. Sure.

Mr. England. Because this is a technical but hugely important point.

Rear Admiral MacDonald. Senator, you're correct in saying that the treaty doesn't allow reservations to be taken. It specifically says you can not take a reservation to the treaty. But it does specifically provide that you can take, you can make a declaration. And that's what we're going to take if the Senate approves the treaty and the Resolution of Advice and Consent, we would make this a declaration, that the United States alone determines what is or is not a military activity. Other nations have taken the military activities exemption. When this was debated back in 2004, this was an issue in 2004, and after the debate, the PRC, the Chinese came in, and took the military activities exemption.

Senator Vitter. Let me rephrase my concern another way. Isn't it true that there would be nothing to prevent another country, with a different understanding about U.S. military activities, to bring a dispute regarding what is, or is not, a U.S. military activity to this mandatory arbitral process, to which we would be bound?

Mr. Bellinger. Senator, they can always try, but the treaty specifically states that parties may opt out of any disputes having to do with military activity. All other major countries have done that and we would do that.

Senator Vitter. The other country does not agree that the matter concerns a military activity. The disagreement would be about defining what is, and what is not, a military activity as a term in the treaty about which two members disagree. This type of dispute falls under the treaty.

Mr. Bellinger. It is up to countries to decide what are their own military activities.

Senator Vitter. That was my first question, Where does it say that in the treaty?

Mr. Bellinger. Unless an interpretation is contrary to the object and purpose of a treaty, it is going to be up to a country to decide what those terms mean. And this is, in fact, an issue that we've thought about. It's one reason why the administration recommended in the Resolution of Advice and Consent that we be very clear on this point. But I would defer to my military contacts when they say its a risk.

Senator Vitter. I have limited time, so I want to go on to some other things.

**I would just say that the fact that this is actually included in the Resolution for Ratification heightens my concern. It underscores the fact that the treaty doesn't include this protection. We attempt to tack it on in the resolution.**

But let me go on to some other points and related issues: Are intelligence activities included as military activities?

Mr. England. The question: Are they affected?

Senator Vitter. Are intelligence activities considered to be excluded from the treaty's jurisdiction as a military activity?

Mr. England. To the best of my knowledge they are. Again, Bruce, do you have a--can you help me specifically to the language. You need to answer.

Mr. Bellinger. Senator, why don't I take a crack at that also? It would be up to us to determine that there's nothing in the treaty that limits our intelligence collection activities.

Senator Vitter. No.

Mr. Bellinger. It would be up to us, if we considered an intelligence activity to be a military activity. And you've heard the Senate Intelligence Committee assure us that they do not think it would interfere with our intelligence activities.

**Senator Vitter. Well again, this has heightened my concern, because we say it would be up to us, yet no other treaty signatory has agreed to this. And to help demonstrate about how parties can disagree on this point, around Capitol Hill, for instance, in terms of committee jurisdiction, we consider intelligence a distinct category separate from the military issues. So, that's really heightening my concern.**

If I could have 1 or 2 more minutes, Mr. Chairman.

Senator Webb. Certainly.

Senator Vitter. Thank you very much.

**Another concern is regulation of domestic activity. It seems to me the treaty clearly states jurisdiction over land-based pollution sources. Why do we want to open that Pandora's Box?**

Mr. Bellinger. Senator, **I think it clearly does not allow regulation over land-based pollution sources. That would stop at the water's edge.** As far as, at least dispute resolution involving them, there can be limitations on the pollution that could emanate, but as far as the ability of any other country to complain and bring us to dispute resolution over pollution that would come from land, **that's not permitted under the treaty.**

Senator Vitter. Well Article 213 says, ``States shall enforce their law on and shall--shall,`` mandatory, ``adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce, and control pollution.`` Well, it sounds to me like the Kyoto Protocol is

**an international standard and we shall pass laws to enforce that.**

Mr. Bellinger. Well, this is not a backdoor way to subject us to the Kyoto Protocol. There is no way that the standard, that those standards could be standards that someone could subject us to in dispute resolutions.

Senator Vitter. Why? The treaty states we shall pass laws to enforce international environmental standards. So why couldn't a state clearly take us before the Tribunal or Arbitration Panel to say, "You're not doing that. You need to heighten environmental laws A, B, C, D, and E."

Mr. Negroponte. There are some environmental issues that are the subject of international agreements, such as ocean dumping, for example. But the--**when you talk about land-based pollution, our view is that that's just not covered by the treaty, Senator. I think that's the point, that we believe that there is no jurisdiction over marine pollution disputes involving land-based sources.**

Senator Vitter. **If it is not covered by the treaty, why is there a section entitled, "Pollution From Land-Based Sources"?**

Mr. Bellinger. It's just the dispute resolution. The treaty has got a number of general hortatory provisions, but the dispute resolution mechanisms are extremely limited for this very reason. We wanted dispute resolution to have things we could use in our favor. If our vessels were seized, people didn't let us go through their territorial seas.

Senator Vitter. **Let me follow up on your answer, because section 6, specifically and directly deals with enforcement of the treaty's land-based pollution provisions. You said it's not part of the dispute resolution process, but section 6, is titled "Enforcement." The article is titled, "Enforcement With Respect to Pollution From Land-Based Sources." Why is that article there if there is no enforcement, with regard to pollution from land-based sources?**

Mr. Bellinger. I think this gets sufficiently technical. We have worked our way through the treaty, we are confident that pollution from land-based sources would not be subject to the jurisdiction of the tribunals or arbitral panels, but we're happy to write it down for you on paper and get it to you, Senator.

Senator Vitter. **Well, I would point you to section 6, article 213, page 176, which is about enforcement, with respect to pollution from land-based sources. It seems to me, the very title of that article at least sets up a prima facie case that your statement isn't correct.**

Mr. Bellinger. We will have a look at it, Senator. Although again, the bigger picture of the enormous national security benefits of the treaty, and certainly our military will tell you that they would not enter into anything where they thought there would be legal risks to the military. But we will--we will have a close look at the provision on land-based pollution.

Senator Webb. Would the Senator----

Senator Vitter. Thank you.

Senator Webb [continuing]. Be amenable to receiving a response in writing, within a reasonable--like a really reasonable period of time addressing this point?

Senator Vitter. Sure.

[The submitted written response by Mr. Bellinger to the

requested information follows:]

The Convention addresses various forms of marine pollution, including pollution from land-based sources (for example, article 207).

However, alleged marine pollution by the United States from land-based sources is not subject to dispute settlement under the Convention, whether by the Tribunal, arbitration, or otherwise. Because of the sensitivities of coastal states concerning their land-based (and certain other) activities, the Convention sets forth limitations on the obligations related to marine pollution that can be subject to dispute settlement.

Specifically, article 297(1)(c) provides that only certain coastal state obligations related to marine pollution are subject to dispute settlement. Among other things, there needs to be a "specified" international rule or standard "applicable" to the coastal state.

In the case of land-based sources of marine pollution, the Convention does not obligate the coastal state to follow an international rule or standard, much less a specified one. On the contrary, recognizing the sensitivity surrounding land-based activities, under article 207, coastal states are merely to "take into account" internationally agreed rules, standards, etc.

Thus, there are no specified rules regarding land-based sources that are applicable to the United States that would be subject to dispute settlement. (It should be noted that, even if there were specified rules/standards applicable to the United States, article 207 would not require the coastal state to follow such standards, just to take them into account.)

The "enforcement" provisions in part XII (such as article 213) do not address party-to-party dispute settlement. Rather, they either allocate enforcement responsibilities as among flag states, port states, and coastal states or they address enforcement by parties vis-a-vis private actors, such as their flag vessels or foreign flag vessels.

In the case of land-based sources, article 213 provides for parties to enforce their respective land-based sources laws and to implement "applicable" international rules. It does not address party-to-party dispute settlement, which is covered by article 297 and other provisions in the dispute settlement chapter.

Senator Webb. All right. Thank you. And on one follow-on question before we close the hearing. I want to make sure that, for the record, your position on the other point that Senator Vitter mentioned, is clearly stated. Let me just ask you if my understanding is correct. I believe what you were saying, if, looking at article 298. It basically exempts disputes concerning military activities, but from my reading of it, is silent as to what the enforcement mechanism would be. And as someone who used to draft legislation here, I'm not sure this directly applies, but I want to, this is my understanding, what your position is, that anytime legislation is silent, existing law prevails. And anytime this sort of treaty provision is silent, it goes back to the law of the individual country involved. Is that essentially what you're saying?

Mr. Bellinger. Yes, sir. We specifically negotiated the treaty and at--we had the same interests as other major powers, like the Russians or Chinese, who certainly did not want to have their military activities subject to dispute resolution. So we had a commonality of interests here, to have a provision that allowed us in the treaty, to opt out of any dispute resolution involving our military activities. That's a right

you have under the treaty and we would do that. Then, the Senator has raised a fair question, as to, who decides what's a military activity. It's not defined in the treaty, so under general treaty practice, if it's not contrary to language in the treaty, it would be up to us to decide.

Senator Webb. Right.

Mr. Bellinger. And I'm sure that other major countries would take exactly the same position.

Senator Webb. That was my understanding of what you were saying. I wanted to make sure we had that clear for the record.

Senator Vitter. Mr. Chairman, if I can follow up----

Senator Webb. Yes.

Senator Vitter [continuing]. On that very briefly. First, I am concerned that, when the treaty is silent about defining what constitutes military activities, and the treaty sets up, specifically, a mandatory dispute resolution mechanism to settle differences regarding interpretation of the treaty's terms, it would be a very reasonable position to assert that the dispute resolution mechanism can be utilized to determine what constitutes a military, and a nonmilitary activity.

Second, I'm particularly concerned that we think, and hope, intelligence is considered military, but that this certainly isn't stated in the treaty text. And around here, just again to use Capitol Hill as an example, with committee jurisdictions et cetera, intelligence is treated as a very distinct smokestack from military activities.

Senator Webb. Well, the Senator has made his point. And again, we have the letters from the chairman of the Intelligence Committee and the ranking member, but his point is appreciated and we will examine it.

This series of hearings will continue next week with other witnesses. Gentlemen, we thank you very much for your time today.

And the hearing is adjourned.

[Whereupon, at 4:24 p.m., the hearing was adjourned.]

Referenced Articles of LOST in this transcript:

[http://www.un.org/Depts/los/convention\\_agreements/texts/unclos/closindx.htm](http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm)

## SECTION 6. ENFORCEMENT

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### *Article 213*

#### *Enforcement with respect to pollution from land-based sources*

States shall enforce their laws and regulations adopted in accordance with article 207 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.

### *Article 298*

#### *Optional exceptions to applicability of section 2*

1. When signing, ratifying or acceding to this Convention or at any time thereafter, a State may, without prejudice to the obligations arising under section 1, declare in writing that it does not accept any one or more of the procedures provided for in section 2 with respect to one or more of the following categories of disputes:

//snip//

# ALASKA STATE LEGISLATURE



## **Sponsor Statement: SJR 13**

SJR 13 urges the United States Senate to ratify the United Nations Convention on the Law of the Seas. Ratification of this treaty will protect American interests related to use and development of the seas off the coast of Alaska, with significant potential benefits to the state of Alaska.

The Law of the Seas was established in 1982 to update outdated laws governing the world's oceans. The Law of the Seas Treaty provides a legal framework for ocean activities including economic development, claim disputes, scientific research, environmental protection, and defense.

Estimates suggest that the Arctic contains 25% of the world's undiscovered oil and gas resources. With high energy prices and a dwindling oil supply, the Arctic offers great potential to meet future energy demands. Of the 155 countries that have ratified the treaty, Russia, Norway, Denmark and Canada have made Arctic claims, giving the United States incentive to do the same.

In 1994 President Bill Clinton signed the treaty; however, the Senate has yet to ratify it, rendering the U.S. the only Arctic nation which hadn't signed. In 2007 President George W. Bush called on the Senate to ratify the treaty, and the Senate Foreign Relations Committee demonstrated overwhelming support with a 17-4 vote. Senators Lisa Murkowski and Mark Begich both favor ratification. Earlier this year, Senator Lisa Murkowski announced her support for ratification, highlighting the great economic potential Alaska's interests. It is likely the United States Senate will vote soon on its ratification.

Recent geological surveys suggest that there could be a seabed extension the size of California that lies beyond Alaska's 200 nautical mile exclusive economic zone. The Law of the Seas Treaty permits countries the right to expand beyond their 200 exclusive economic zone, under certain conditions. If the United States ratifies the Law of the Seas treaty, it is possible the 200 nautical mile exclusive economic zone could be extended.

Without ratification United States will be denied opportunities to make claims as well as participate in future policy decisions.

### **Background on the Law of the Sea Treaty:**

- The Law of the Sea Treaty recognizes countries' sovereign rights over a 200-nautical-mile exclusive economic zone for resource development, exploration, conservation, and energy production.
- Since 1983 the United States has been in voluntary compliance with the Law of the Sea Treaty; however, mere compliance does not allow U.S. participation in treaty processes or protection under treaty terms.
- Member nations may expand their 200-nautical-mile exclusive economic zone if they meet certain provisions, such as proving that their continental seabed extends beyond this area.
- In 1994, amendments were made to this treaty which addressed President Ronald Reagan's concerns regarding deep seabed mining provisions, including a guaranteed position for the U.S. on the International Seabed Authority and elimination of mandatory technology transfers and non-market based controls on levels of mineral production.
- Ratifying the treaty does not weaken U.S. sovereignty; it actually increases it by allowing more jurisdiction over claims and permits the U.S. to participate in policymaking as a member of the International Seabed Authority.
- In 2001, a study conducted by the University of New Hampshire found that the continental shelf off Alaska may permit the U.S. to lay claim to an area approximately the size of California.
- The U.S. is the only Arctic nation that has not ratified the Law of the Sea Treaty. Currently 155 countries worldwide are signatories.
- Ratification supporters include President Bill Clinton, President George W. Bush, President Barack Obama, Senators Lisa Murkowski and Mark Begich, the International Association of Drilling Contractors, the National Fisheries Institute, Former Chairman of the Joint Chiefs of staff General Richard Meyers, the Navy League of the United States, Oceana and others.
- Until the U.S. ratifies the Law of the Seas Treaty, it will remain an observer to the International Seabed Authority, rather than a participant.

Ratifying the Law of the Sea Treaty offers Alaska tremendous benefits associated with an extended exclusive economic zone. If we do not sign, we risk surrendering our interests to other countries.

## **Myths and Realities of the Convention on the Law of the Sea**

*Taken from the written testimony of John D. Negroponte, Deputy Secretary of State, before the Senate Foreign Relations Committee, 9/27/2007*

Certain arguments against U.S. accession are simply inaccurate. And other arguments are outdated, in the sense that they may have been true before the deep seabed mining provisions were fixed and thus are no longer true. I would like to address some of these "myths" surrounding the Convention:

**Myth:** Joining the Convention would surrender U.S. sovereignty.

**Reality:** On the contrary. Some have called the Convention a "U.S. land grab." It expands U.S. sovereignty and sovereign rights over extensive maritime territory and natural resources off its coast, as described earlier in my testimony. It is rare that a treaty actually increases the area over which a country exercises sovereign rights, but this treaty does. The Convention does not harm U.S. sovereignty in any respect. As sought by the United States, the dispute resolution mechanisms provide appropriate flexibility in terms of both the forum and the exclusion of sensitive subject matter. The deep seabed mining provisions do not apply to any areas in which the United States has sovereignty or sovereign rights; further, these rules will facilitate mining activities by U.S. companies. And the navigational provisions affirm the freedoms that are important to the worldwide mobility of U.S. military and commercial vessels.

**Myth:** The Convention is a "UN" treaty and therefore does not serve our interests.

**Reality:** The Convention is not the United Nations - it was merely negotiated there, as are many agreements, and negotiated by States, not by UN bureaucrats. Further, just because a treaty was drawn up at the UN does not mean it does not serve our interests. For example, the United States benefits from UN treaties such as the Convention Against Corruption and the Convention for the Suppression of Terrorist Bombings. The Law of the Sea Convention is another such treaty that serves U.S. interests.

**Myth:** The International Seabed Authority (ISA) has the power to regulate seven-tenths of the Earth's surface.

**Reality:** The Convention addresses seven-tenths of the earth's surface; the ISA does not. First, the ISA does not address activities in the water column, such as navigation. Second, the ISA has nothing to do with the ocean floor that is

subject to the sovereignty or sovereign rights of any country, including that of the United States. Third, the ISA only addresses deep seabed mining. Thus, its role is limited to mining activities in areas of the ocean floor beyond national jurisdiction. It has no other role and no general authority over the uses of the oceans, including freedom of navigation and overflight.

**Myth:** The Convention gives the UN its first opportunity to levy taxes.

**Reality:** Although the Convention was negotiated under UN auspices, it is separate from the UN and its institutions are not UN bodies. Further, there are no taxes of any kind on individuals or corporations or others. Concerning oil/gas production within 200 nautical miles of shore, the United States gets exclusive sovereign rights to seabed resources within the largest such area in the world. There are no finance-related requirements in the EEZ. Concerning oil/gas production beyond 200 nautical miles of shore, the United States is one of a group of countries potentially entitled to extensive continental shelf beyond its EEZ. Countries that benefit from an Extended Continental Shelf have no requirements for the first five years of production at a site; in the sixth year of production, they are to make payments equal to 1% of production, increasing by 1% a year until capped at 7% in the twelfth year of production. If the United States were to pay royalties, it would be because U.S. oil and gas companies are engaged in successful production beyond 200 nautical miles. But if the United States does not become a party, U.S. companies will likely not be willing or able to engage in oil/gas activities in such areas, as I explained earlier.

Concerning mineral activities in the deep seabed, which is beyond U.S. jurisdiction, an interested company would pay an application fee for the administrative expenses of processing the application. Any amount that did not get used for processing the application would be returned to the applicant. The Convention does not set forth any royalty requirements for production; the United States would need to agree to establish any such requirements.

In no event would any payments go to the UN, but rather would be distributed to countries in accordance with a formula to which the United States would have to agree.

**Myth:** The Convention would permit an international tribunal to second-guess the U.S. Navy.

**Reality:** No international tribunal would have jurisdiction over the U.S. Navy. U.S. military activities, including those of the U.S. Navy, would not be subject to any form of dispute resolution. The Convention expressly permits a party to

exclude from dispute settlement those disputes that concern "military activities." The United States will have the exclusive right to determine what constitutes a military activity.

**Myth:** The International Tribunal for the Law of the Sea could order the release of a vessel apprehended by the U.S. military.

**Reality:** The Tribunal has no jurisdiction to order release in such a case. Its authority to address the prompt release of vessels applies only to two types of cases: fishing and protection of the marine environment. Further, even if its mandate did extend further - which it does not - the United States will be taking advantage of the optional exclusion of military activities from dispute settlement. As such, in no event would the Tribunal have any authority to direct the release of a vessel apprehended by the U.S. military.

**Myth:** The Convention was drafted before - and without regard to - the war on terror and what the United States must do to wage it successfully.

**Reality:** The Convention enhances, rather than undermines, our ability to wage the war on terror. Maximum maritime naval and air mobility is essential for our military forces to operate effectively. The Convention provides the necessary stability and framework for our forces, weapons, and materiel to get to the fight without hindrance. It is essential that key sea and air lanes remain open as a matter of international legal right and not be contingent upon approval from nations along those routes. The senior U.S. military leadership - the Joint Chiefs of Staff - has recently confirmed the continuing importance of U.S. accession to the Convention in a letter to the Committee.

**Myth:** The Convention would prohibit or impair U.S. intelligence and submarine activities.

**Reality:** The Convention does not prohibit or impair intelligence or submarine activities. Joining the Convention would not affect the conduct of intelligence activities in any way. This issue was the subject of extensive hearings in 2004 before the Senate Select Committee on Intelligence. Witnesses from Defense, CIA, and State all confirmed that U.S. intelligence and submarine activities are not adversely affected by the Convention. We follow the navigational provisions of the Convention today and are not adversely affected; similarly, we would not be adversely affected by joining.

**Myth:** The United States can rely on use or threat of force to protect its navigational interests fully.

**Reality:** The United States has utilized diplomatic and operational challenges to resist the excessive maritime claims of other countries that interfere with U.S. navigational rights. But these operations entail a certain degree of risk, as well as resources. Being a party to the Convention would significantly enhance our efforts to roll back these claims by, among other things, putting the United States in a stronger position to assert our rights.

**Myth:** Joining the Convention would hurt U.S. maritime interdiction efforts under the Proliferation Security Initiative (PSI).

**Reality:** Joining the Convention would not affect applicable maritime law or policy regarding the interdiction of weapons of mass destruction. PSI specifically requires participating countries to act consistent with international law, which includes the law reflected in the Convention. Almost all PSI partners are parties to the Convention. Further, joining the Convention is likely to strengthen PSI by attracting new cooperative partners.

**Myth:** President Reagan thought the treaty was irremediably defective.

**Reality:** As explained above, President Reagan identified only certain deep seabed mining provisions of the Convention as flawed. His 1983 Ocean Policy Statement demonstrates that he embraced the non-deep-seabed provisions and established them as official U.S. policy. The 1994 Agreement overcomes each of the objections to the deep seabed mining provisions identified by President Reagan. As President Reagan's Secretary of State, George P. Shultz, noted in his recent letter to Senator Lugar, "It surprises me to learn that opponents of the treaty are invoking President Reagan's name, arguing that he would have opposed ratification despite having succeeded on the deep sea-bed issue. During his administration, with full clearance and support from President Reagan, we made it very clear that we would support ratification if our position on the sea-bed issue were accepted."

**Myth:** The Convention provides for mandatory technology transfer.

**Reality:** Mandatory technology transfer was eliminated by the 1994 Agreement that modified the original Convention.

**Myth:** The United States could and should renegotiate a new law of the sea agreement, confined to the provisions on navigational freedoms.

**Reality:** Assuming, for the sake of argument, that this were a desirable outcome, other countries would have no reason or incentive to enter into such a negotiation. The Convention is widely accepted, having been joined by over

150 parties including all other major maritime powers and most other industrialized nations. Those parties are generally satisfied with the entirety of the treaty and would be unwilling to sacrifice other provisions of the Convention, such as benefits associated with exclusive economic zones and sovereign rights over the resources they contain, as well as continental shelves out to 200 nautical miles and in some cases far beyond. And parties that would like to impose new constraints on our navigational freedoms certainly would not accept the 1982 version of those freedoms.

<http://www.betterworldcampaign.org/issues/international-security/law-of-the-sea-treaty.html>

## Stakeholder Endorsements of US Accession to the UN Convention on the Law of the Sea and the 1994 Agreement on Implementation

Endorsements categorized as follows:

- Obama Administration
- Bush Administration
- Current Military Service Chiefs and Legal Advisers(9)
- Former Secretaries of State (8)
- Other Former Cabinet and Sub-Cabinet Officers (12)
- Former UN Representatives and Ambassadors (5)
- Former National Security Advisors (4)
- Former EPA Administrators (4)
- Former Senators (6)
- State and City Officials (14)
- Business and Industry (20)
- Oceans and Environmental Organizations (21)
- Academia (25)
- Joint Ocean Commissions Initiative (3)
- Research and Science Organizations (7)
- International Affairs (4)
- Legal Societies and Organizations (5)
- Chairmen of the Joint Chiefs of Staff (7)
- Chiefs of Naval Operations (11)
- Commandants of the US Coast Guard (5)
- Additional Retired Navy and Coast Guard (12)
- Legal Advisers of the Department of State (10)
- Church Support (4)
- Other (31)

*(Endorsements as contained in letters, commentary articles, letters to the editor and testimony)*

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*U.S.*  
**Extended Continental Shelf**  
*Project*

Since 2001, the United States has been engaged in gathering and analyzing data to determine the outer limits of its extended continental shelf (ECS). Under the Convention on the Law of the Sea, every coastal State has a continental shelf out to 200 nautical miles from its coastal baselines (or out to a maritime boundary with another coastal State), and beyond that distance if certain criteria are met. Article 76 of the Convention sets forth the criteria upon which a coastal State may determine a continental shelf that extends beyond 200 nautical miles. The ECS is that portion of the continental shelf that lies beyond this 200 nautical mile limit. Beginning in 2007 the effort to delimit the U.S. ECS became the Extended Continental Shelf Project, directed by an interagency task force.

**Defining the U.S. Extended Continental Shelf**

The process to determine the outer limits of a State's ECS requires the collection and analysis of data that describe the depth, shape, and geophysical characteristics of the seabed and sub-sea floor. Particularly important is bathymetric and sediment thickness data.

The U.S. Extended Continental Shelf Task Force, an interagency body headed by the U.S. Department of State, coordinates the work to define the limits of the U.S. continental shelf. Participants in this Task Force include: State Department, NOAA (National Oceanic and Atmospheric Administration), the U.S. Geological Survey, the Executive Office of the President, the Joint Chiefs of Staff, the U.S. Navy, the U.S. Coast Guard, the Department of Energy, the National Science Foundation, the Environmental Protection Agency, the Minerals Management Service, and the Arctic Research Commission.

**Why define the U.S. extended continental shelf?**

A coastal State can exercise certain sovereign rights over its continental shelf, including: exploration, exploitation, conservation, and management of non-living resources of the seabed and subsoil of the continental shelf, such as ferromanganese crusts, ferromanganese nodules, gas hydrate deposits, and petroleum; and exploration,

exploitation, conservation, and management of living, "sedentary" resources, such as clams, crabs, scallops, sponges, and mollusks.

While a continental shelf is coincident with the exclusive economic zone (EEZ) out to 200 nautical miles, the ECS is not an extension of the EEZ. Sovereign rights that apply to the EEZ, especially rights to the resources of the water column (e.g., pelagic fisheries) do not apply to the ECS.

Establishing ECS limits will define the U.S. continental shelf in concrete geographical terms. Moreover, the United States has an inherent national interest in knowing, and declaring to others with specificity and certainty, the extent of sovereign rights with regard to the U.S. continental shelf beyond 200 nautical miles. Such certainty and international recognition is important to establishing the stability necessary for development and conservation of these potentially resource-rich areas.

The collection and analysis of the data necessary to support the establishment of the U.S. ECS will, in itself, serve a range of other environmental, geologic, engineering, and resource management needs. The data will provide a better scientific understanding of formation and transformation processes of our continental margins. The United States will gain specific insights related to such areas as climate variability, marine ecosystems, undiscovered or unconventional energy, mineral resources, and hazards resulting from extreme events, such as earthquakes and tsunamis. Finally, exploration of little known areas, particularly in the ice-covered Arctic, will advance our operational capabilities and open new windows on this remote and inaccessible environment.

#### **Data Collection and Analysis**

In late 2001, Congress directed the University of New Hampshire's Joint Hydrographic Center (JHC) -- a partnership with NOAA -- to conduct a study that evaluated current data holdings relevant to establishing the U.S. ECS, and to recommend what additional data would be needed. This study identified a number of areas where the United States may have extended continental shelf: the Atlantic East Coast, the Gulf of Mexico, the Gulf of Alaska, the Bering Sea, the Arctic Ocean, Kingman Reef/Palmyra Atoll, and the Mariana Islands/Guam.

This amounts to about one million square kilometers or approximately twice the size of California. Roughly half of that area is likely to exist off Alaska. Additional analyses and data collection suggest an even

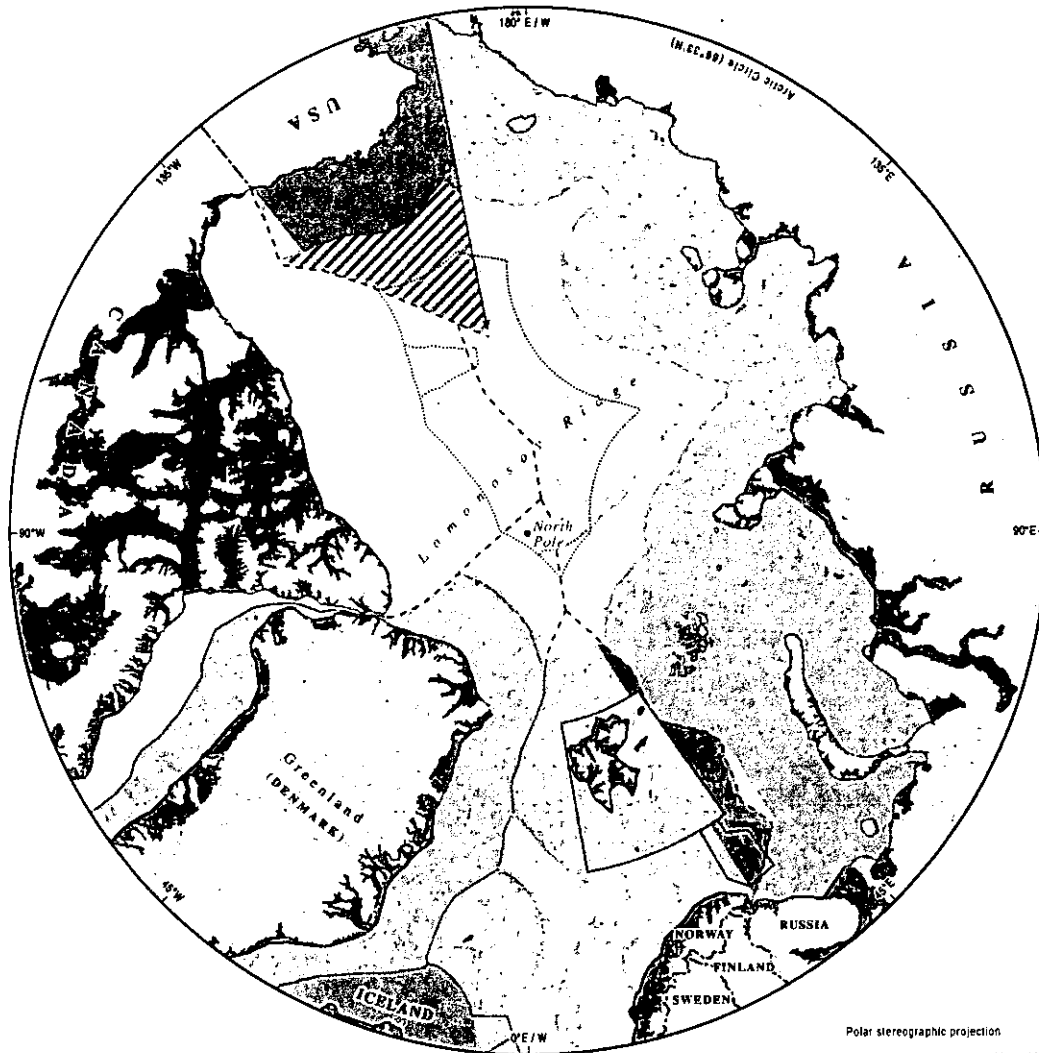
larger ECS, in these and possibly other areas. As additional data are collected and existing data analyzed, we will begin to come to a more definitive conclusion as to the extent of the U.S. ECS.

Since 2002, the JHC has continued to receive grants from NOAA as directed by Congress to collect the bathymetric data specified in the study. The JHC has collected more than one million square kilometers of bathymetric data from eleven cruises: Arctic Ocean (2003, 2004, 2007), Gulf of Alaska (2005), Gulf of Mexico (2007), Atlantic Ocean (2004, 2005, 2008), Northern Mariana Islands and Guam (2006, 2007), and Bering Sea (2003). A cruise is planned for an area off Kingman Reef and Palmyra Atoll in 2008 or early 2009.

All data collected thus far by the United States in support of defining its continental shelf have been released to the public. The bathymetric data is available from the National Geophysical Data Center and the Joint Hydrographic Center

<http://www.state.gov/g/oes/continentalshelf/>

## Maritime jurisdiction and boundaries in the Arctic region



Polar stereographic projection  
 0 nautical miles 400 at 66°N  
 0 kilometres 600

- |  |   |   |
|--|---|---|
| Internal waters  | Norway claimed continental shelf beyond 200 nm                          | Straight baselines  |
| Canada territorial sea and EEZ   | Russia territorial sea and EEZ  | Agreed boundary   |
| Potential Canada continental shelf beyond 200 nm   | Russia claimed continental shelf beyond 200 nm                          | Median line   |
| Denmark territorial sea and EEZ  | Overlapping Norway / Russia EEZ   | 350 nm from baselines                                     |
| Denmark claimed continental shelf beyond 200 nm  | Overlapping Norway EEZ / Russia claimed continental shelf beyond 200 nm | 100 nm from 2500 m isobath (beyond 350 nm from baselines) |
| Potential Denmark continental shelf beyond 200 nm  | Overlapping Norway / Russia claimed continental shelf beyond 200 nm     | Svalbard treaty area                                      |
| Iceland EEZ  | USA territorial sea and EEZ   | Iceland - Norway joint zone                               |
| Iceland claimed continental shelf beyond 200 nm  | Potential USA continental shelf beyond 200 nm                           | Norway - Russia 'Grey Area' (agreed fishing regime)       |
| Norway territorial sea and EEZ / Fishery zone Jan Mayen / Fishery protection zone (Svalbard) | Overlapping Canada / USA EEZ  | Canada EEZ boundary claim                                 |
|  |   | Eastern Special Area                                      |

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## New Seafloor Maps May Bolster U.S. Arctic Claims

Jeannette J. Lee in Anchorage, Alaska  
Associated Press

February 12, 2008

New seafloor mapping data show the foot of Alaska's continental slope extends more than 100 nautical miles (185 kilometers) farther from the U.S. coast than previously believed, U.S. federal scientists said Monday.

The National Oceanic and Atmospheric Administration (NOAA) data could bolster claims the U.S. might make in the Arctic, as nations in the region compete for potentially rich reserves of oil, gas, and minerals buried beneath the sea floor.

(Related story: [Arctic Oil Rush Sparks Battles Over Seafloor](#) [August 23, 2007])

Federal officials said the data would support the U.S. if the country chooses to jockey with [Russia](#), [Canada](#), and other circumpolar nations under the international Law of the Sea treaty to carve out boundaries off their northern coasts. (See a [map of the Arctic Ocean](#).)

The Law of the Sea confers sovereign rights over a country's continental shelf beyond the normal boundary of 200 nautical miles (370 kilometers) if the country can substantiate its claims through scientific evidence.

The U.S. is the only Arctic nation not party to the Law of the Sea treaty, which is a contentious issue in Congress. The Bush administration has been pushing for its approval.

### A Partial Answer

"We found evidence that the foot of the slope was much farther out than we thought," said Larry Mayer, the chief scientist for the expedition last year. "That was the big discovery."

Scientists said their findings do not completely settle the question of where the U.S. could set a plausible boundary.

"There's no question that the potential U.S. continental shelf and the potential shelf from Canada will have some overlap," said Andy Armstrong, NOAA co-director of the Joint Hydrographic Center at the University of New Hampshire. "We'll have to work with bordering nations to sort out any potential overlaps."

Mayer said the boundary with Russia is "just about established."

### Bottom of the Ocean

The expedition, which cost at least 1.2 million U.S. dollars, focused on a section of the Chukchi Sea about 400 to 600 miles (645 to 965 kilometers) north of Alaska.

Scientists covered more than 6,200 miles (about 10,000 kilometers), taking bathymetric soundings using multibeam sonar from the deck of an icebreaker, the U.S. Coast Guard cutter *Healy*, said Mayer, who is also co-director of the Joint Hydrographic Center at the university in Durham, New Hampshire.

The resulting images of the relatively unexplored region are the most detailed ever collected and will be applied to a variety of research topics, said Capt. Steve Barnum director of NOAA's Office of Coast Survey.

"These are entirely new insights into what the ocean bottom looks like," Barnum said. "The data will be used to gain a better understanding of many things, including ecosystems and climate circulation models."

The next expedition is planned for mid-August through early September, Mayer said, and will follow a geologic feature that could extend the foot of the slope to the north and east.

A U.S. study suggests as much as 25 percent of the world's undiscovered oil and gas could be hidden beneath the Arctic seabed.

Growing evidence that global warming is shrinking polar ice ([see story](#))—opening up resource development and new shipping lanes—has added to the urgency of the claims.

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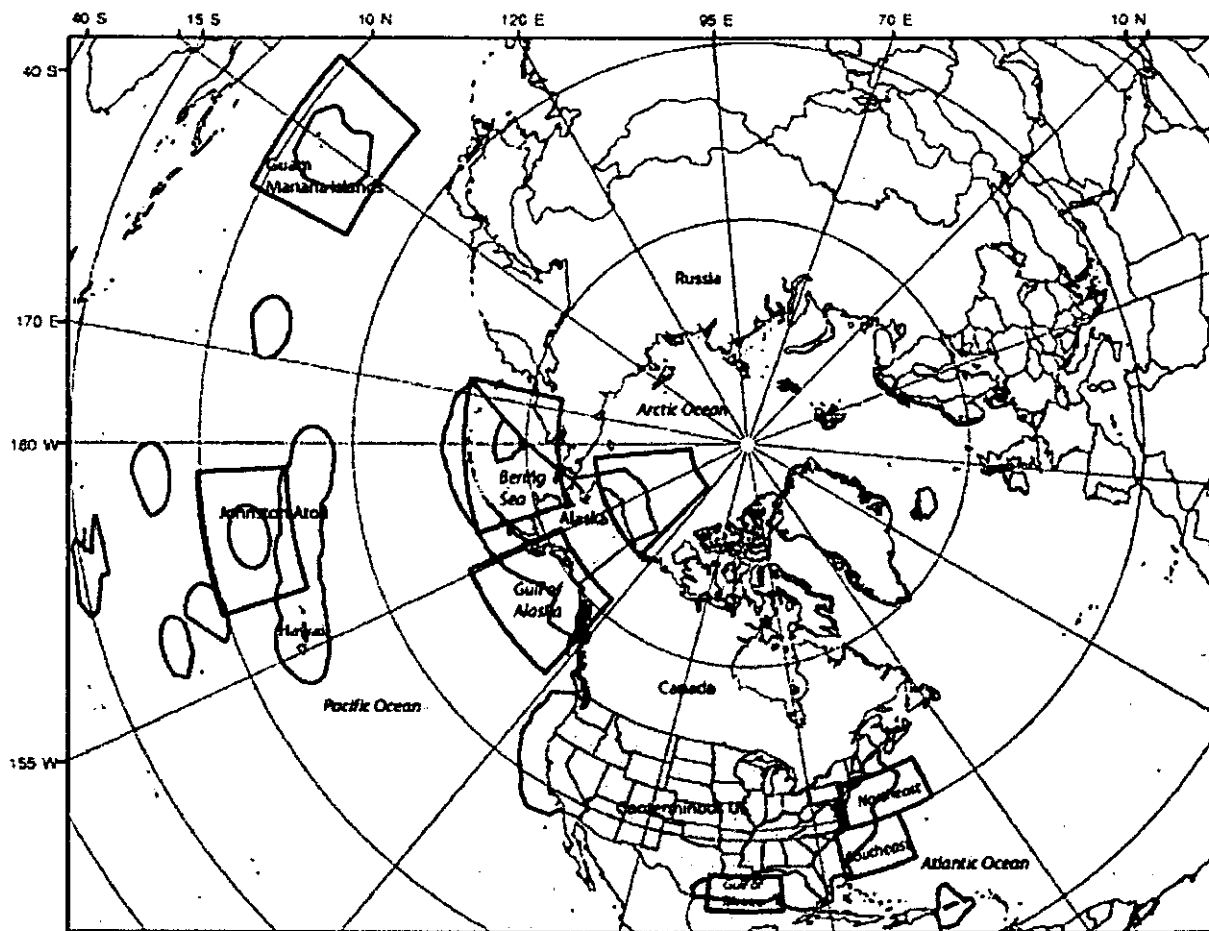


Figure 2: Eight regions (in red) adjacent to the United States and its dependences, where there likely exists extended continental shelf (ECS) beyond 200 nautical miles (in blue) identified by Mayer et al.(2002), The compilation and analysis of data relevant to a U.S. Claim under the United Nations Law of the Sea Article 76: A Preliminary Report. The regions presented in this figure are the result of an academic study, do not represent a formal position of the United States, and are without prejudice to any rights that the United States has with respect to its continental shelf.

US Department of State   
 Extended Continental Shelf Project

Senator Lisa Murkowski

CSIS – Arctic Forum

Wednesday, July 23, 2008

- Thank you for the invitation to speak to you about one of my favorite topics, the Arctic. The United States has been an Arctic nation since the purchase of Alaska from Russia in 1867. While I am fairly confident that each of you were already aware of this, the challenge is getting the general public to understand not only that the United States has land in the Arctic, but this area is critically important for many reasons.
- The heightened focus on the Arctic of late is primarily due to the impacts of climate change and the fact that these changes are occurring at an unprecedented rate in this region. This makes the Arctic the most vital place to be studying how climate change can affect the entire planet.
- This past summer we saw the Northwest Passage completely ice free for the first time in recorded history. Canada responded by announcing plans for an Arctic military training facility and deep-water port on the Northwest Passage. They followed that up by calling for the construction of 6 to 8 ice strengthened patrol boats, to be in operation by 2014, to assert their sovereignty claim in the Arctic.
- In an expedition some have compared to the United States planting a flag on the moon, a Russian-led team descended 13,000 feet to the seabed on August 2 of last year and planted a Russian flag directly on the North Pole.
- This intense interest in claiming Arctic territory is primarily driven by the quest for Arctic resources. Until recently, the resources of the Arctic were deemed to be too difficult and expensive to develop. But with increasing access and high energy prices, the Arctic's wealth, which is conservatively estimated to contain up to 25% of the world's remaining oil and gas reserves, including over 100 billion barrels of oil, is now being explored and developed at an unprecedented rate.
- Russia is turning its eye to the Arctic's vast energy reserves as they are building the first offshore oil rig that can withstand temperatures as low as minus 50 degrees Celsius and heavy pack ice. They are also reducing taxes and bureaucratic hurdles in order to encourage new oil development in the Arctic.

- Maritime activities relating to the transportation of goods, oil and gas, tourism and research will surely increase as access to the Arctic Ocean increases. Work is underway to determine the way forward in the development of a shipping regime through the Northern Sea Route, Northwest Passage, and even directly over the pole.
- The dramatic retreat of Arctic sea ice has focused much attention on the development of these routes, but in order to be viable options to the Suez and Panama canals, the need for a comprehensive plan addressing safety, security, navigation, environmental protection, vessel standards and economics must be developed and in place.
- The Arctic is truly the last frontier. One of the few places on earth where all the borders aren't drawn on the map yet and some of those that are, are disputed. A recent article in Parade magazine entitled, "The Race to Own the Arctic", will certainly bring more attention to the region, given its readership of approximately 70 million Americans. But the title of the article emphasizes the competition underway to own the resources by extending continental shelf claims. While the anticipated claims do overlap in many cases, there exists an opportunity to address these claims and many of the other key issues in the Arctic, cooperatively and multi-laterally.
- On May 28th, representatives of the 5 coastal states bordering the Arctic-Canada, Denmark, Norway, Russia and the United States met in Ilulissat (Ill-you-lis-at), Greenland, and adopted a declaration of cooperation in the Arctic. The representatives recognized the undeniable uniqueness of the region and the dramatic changes occurring there, with the potential for profound effects on the environment and indigenous people of the region.
- The Ilulissat Declaration recognizes the responsibilities of the Arctic nations to be good stewards and to work together to protect the fragile Arctic ecosystem. The Arctic is a marine environment surrounded by continents and a shipping disaster or oil spill would not just effect the local area, but could jeopardize the entire Arctic ecosystem and cause irreversible damage.
- The Declaration supports the Law of the Sea Treaty as the legal framework for governance in the Arctic, saying that a new international legal regime is not needed to govern this region. If the Law of the Sea is the overarching legal mechanism, then it is even more crucial that the United States ratify this treaty.
- Russia submitted an extended continental shelf claim in 2002 that would grant them 460,000 square miles of the Arctic Ocean's bottom resources. That is an area the size of Texas, California and Indiana combined. Their claim was rejected for lack of technical data, but they have since resubmitted their claim with new data following their flag planting expedition last summer.
- Denmark and Canada are anxious to establish their own claims in the Arctic and

Norway's claim is currently under review by the Commission on the Limits of the Continental Shelf.

- But here in the United States, we are not able to make a claim until we ratify the Convention. There are some who do not see the point in joining the rest of the world in ratifying the treaty. They say that the U.S. already enjoys the benefits of the Treaty even though we are not a member and that by not becoming a party to the Treaty, we can pick and choose which sections we abide by, while not subjecting our actions to international review.
  - But I believe it is very important for the United States to be a party to this Treaty and be a player in the process, rather than an outsider hoping our interests are not damaged. Accession to the Convention would give current and future administrations both enhanced credibility and leverage in calling upon other nations to meet Convention responsibilities. Given the support for the Treaty by Arctic nations and the drive to develop natural resources, the Treaty will also provide the environmental framework to develop these resources while minimizing environmental impacts.
  - According to the U.S. Arctic Research Commission, if the United States were to become a party to the Treaty, we could lay claim to an area in the Arctic of about 450,000 square kilometers-or approximately the size of California. But if we do not become a party to the Treaty, our opportunity to make this claim, and have the international community respect it, diminishes considerably-as does our ability to prevent claims like Russia's from coming to fruition.
  - The Administration has shown strong leadership in being a party to the Ilulissat Declaration and our intentions to work cooperatively with the other Arctic nations. It is time for the United States Senate to show the leadership to ratify the treaty.
  - There are a number of other areas where the United States is leading the way in the Arctic. Our science budget for Arctic research is the most of any country and through efforts like the International Polar Year, American scientists are working on well over 100 projects with scientists from around the world. It is my hope that IPY will usher in a new era of scientific cooperation and collaboration in the Arctic.
  - Congress recently passed a resolution, which the President signed into law, to develop an international fisheries regime for the Arctic. Alaska, like Norway and Iceland, has been very successful in managing our fisheries and there is every reason to believe that this will continue with a very precautionary approach in the Arctic. In fact, the North Pacific Fisheries Management Council, the advisory body for the federal fisheries off of Alaska, proactively closed all fisheries in the Arctic until an assessment of the fish stocks could be made and a management plan developed.
  - Although the United States is a world leader in some facets of the Arctic, there are

many others areas that the question must be asked: Is the United States a leader in addressing climate change? For the first time the Senate started the legislative debate on the issue of climate change. We are far from an end-game, but movement is afoot. What about sustainable energy development? Alternative energy? Environmental protection? We need to be leaders in each of these areas.

- We have an incredible opportunity to develop an international policy and cooperative regime in the Arctic. With such a fragile ecosystem, however, our first effort may be our last chance to get it right. We sit on the edge of the precipice, with continued change projected to occur whether we are prepared or not. How we address this challenge and adapt in the Arctic will be an example for the rest of the world.
- The Ilulissat Declaration gives us hope that international cooperation among Arctic nations is possible and by working together to develop a framework for governing the region, we can mutually provide for its' protection and preservation.
- We will only succeed in the Arctic if it is a commitment that all nations share and undertake together. The future of the Arctic depends on it. Thank you.

###



CHAIRMAN OF THE JOINT CHIEFS OF STAFF

WASHINGTON, D.C. 20318-9999

26 June 2007

The Honorable Joseph Biden, Jr.  
Chairman, Committee on Foreign  
Relations  
United States Senate  
Washington, D.C. 20510-6225

Dear Mr. Chairman,

As the world's preeminent maritime power, leader in the War on Terrorism, and Nation with the largest exclusive economic zone, the United States should accede to the Law of the Sea Convention during this session of Congress. No country has a greater interest in public order for the world's oceans. Becoming a Party to the Convention will ensure our leadership role in the continuing development of oceans law and policy.

The Convention codifies navigation and overflight rights and high seas freedoms that are essential for the global mobility of our Armed Forces. It furthers our National Security Strategy, strengthens the coalition, and supports the President's Proliferation Security Initiative.

From sustaining forward deployed military forces, to ensuring the security of our ports and waters as well as advancing our most important economic and foreign policy objectives, it is important that the United States become a Party to the Convention.

In closing, we offer our gratitude for your efforts and those of Senator Lugar to bring this important Convention to the Senate for consideration.

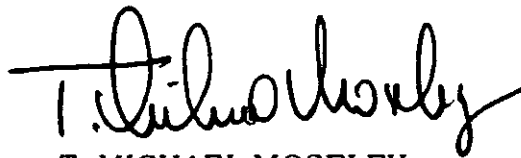
Very Respectfully,

E. P. GIAMBASTIANI  
Admiral, U.S. Navy  
Vice Chairman  
of the Joint Chiefs of Staff


PETER PACE  
General, United States Marine Corps  
Chairman  
of the Joint Chiefs of Staff



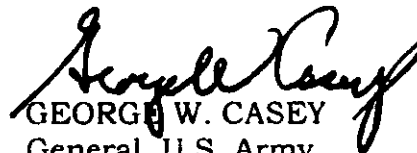
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## USGS Arctic Oil and Gas Report

### Estimates of Undiscovered Oil and Gas North of the Arctic Circle

A USGS fact sheet from July 2008

The U.S. Geological Survey (USGS) has completed an assessment of undiscovered conventional oil and gas resources in all areas north of the Arctic Circle. Using a geology-based probabilistic methodology, the USGS estimated the occurrence of undiscovered oil and gas in 33 geologic provinces thought to be prospective for petroleum. The sum of the mean estimates for each province indicates that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may remain to be found in the Arctic, of which approximately 84 percent is expected to occur in offshore areas.

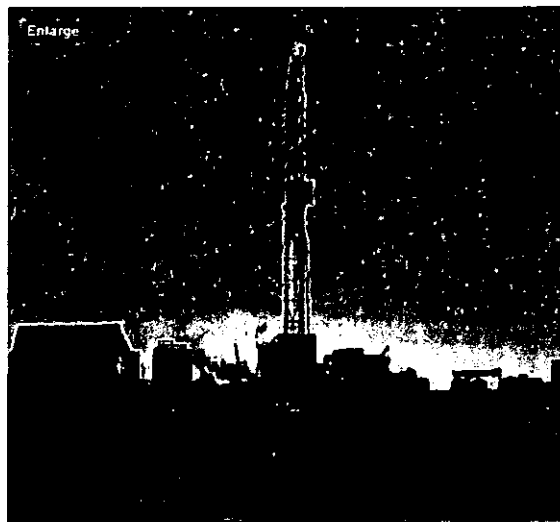
### Introduction

In May 2008 a team of U.S. Geological Survey (USGS) scientists completed an appraisal of possible future additions to world oil and gas reserves from new field discoveries in the Arctic. This Circum-Arctic Resource Appraisal (CARA) evaluated the petroleum potential of all areas north of the Arctic Circle (66.56° north latitude); quantitative assessments were conducted in those geologic areas considered to have at least a 10-percent chance of one or more significant oil or gas accumulations. For the purposes of the study, a significant accumulation contains recoverable volumes of at least 50 million barrels of oil and/or oil-equivalent natural gas. The study included only those resources believed to be recoverable using existing technology, but with the important assumptions for offshore areas that the resources would be recoverable even in the presence of permanent sea ice and oceanic water depth. No economic considerations are included in these initial estimates; results are presented without reference to costs of exploration and development, which will be important in many of the assessed areas. So-called nonconventional resources, such as coal bed methane, gas hydrate, oil shale, and tar sand, were explicitly excluded from the study. Full details of the CARA study will be published later.

A number of onshore areas in Canada, Russia, and Alaska already have been explored for petroleum, resulting in the discovery of more than 400 oil and gas fields north of the Arctic Circle. These fields account for approximately 240 billion barrels (BBOE) of oil and oil-equivalent natural gas, which is almost 10 percent of the world's known conventional petroleum resources (cumulative production and remaining proved reserves). Nevertheless, most of the Arctic, especially offshore, is essentially unexplored with respect to petroleum. The Arctic Circle encompasses about 6 percent of the Earth's surface, an area of more than 21 million km<sup>2</sup> (8.2 million mi<sup>2</sup>), of which almost 8 million km<sup>2</sup> (3.1 million mi<sup>2</sup>) is onshore and more than 7 million km<sup>2</sup> (2.7 million mi<sup>2</sup>) is on continental shelves under less than 500 m of water. The extensive Arctic continental shelves may constitute the geographically largest unexplored prospective area for petroleum remaining on Earth.

### Methodology

A newly compiled map of Arctic sedimentary basins (Arthur Grantz and others, unpublished work) was used to define geologic provinces, each containing more than 3 km of sedimentary strata. Assessment units (AUs)—mappable volumes of rock with common geologic traits—were identified within each province and quantitatively assessed for petroleum potential. Because of the sparse seismic and drilling data in much of the Arctic, the usual tools and techniques used in USGS resource assessments, such as discovery process modeling, prospect delineation, and deposit simulation, were not generally applicable. Therefore, the CARA relied on a probabilistic methodology of geological analysis and analog modeling. A world analog database (Charpentier and others, 2008) was developed using the AUs defined in the USGS World Petroleum Assessment 2000 (USGS World Assessment Team, 2000). The database includes areas that account for more than 95 percent of the world's known oil and gas resources outside the United States.



Malik Project Drill Rig on the Mackenzie Delta of the Canadian Arctic. USGS Image

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For each assessment unit, the CARA team assessed the probability (AU probability) that a significant oil or gas accumulation was present. This evaluation of AU probability was based on three geologic elements: (1) charge (including source rocks and thermal maturity), (2) rocks (including reservoirs, traps, and seals), and (3) timing (including the relative ages of migration and trap formation, as well as preservation). Each assessment unit was ranked according to its AU probability; those AUs judged to have less than a 10-percent probability of a significant accumulation were not quantitatively assessed.

In addition to the AU probability, the number of accumulations, the size-frequency distribution of accumulations, and the relative likelihood of oil versus gas were assessed for each AU and combined by means of a Monte Carlo simulation. The probabilistic results reflect the wide range of uncertainty inherent in frontier geological provinces such as those of the Arctic.

**Results—Resource Summary**

Within the area of the CARA, 25 provinces were quantitatively assessed; 8 provinces were judged to have less than a 10-percent probability of at least one significant accumulation in any AU and were, therefore, not assessed. Results of individual AU assessments are not reported here, but the AUs are shown as mapped areas on figure 1, where they are color-coded for the probability of at least one undiscovered accumulation of minimum size. The provinces are listed in table 1, in ranked order of total mean estimated oil-equivalent volumes of undiscovered oil, gas, and natural gas liquids (NGL). The provinces are shown in figures 2 and 3, where they have been color-coded with respect to fully risked (including AU probabilities) potential for gas and oil, respectively.

More than 70 percent of the mean undiscovered oil resources is estimated to occur in five provinces: Arctic Alaska, Amerasia Basin, East Greenland Rift Basins, East Barents Basins, and West Greenland—East Canada. More than 70 percent of the undiscovered natural gas is estimated to occur in three provinces, the West Siberian Basin, the East Barents Basins, and Arctic Alaska. It is further estimated that

approximately 84 percent of the undiscovered oil and gas occurs offshore. The total mean undiscovered conventional oil and gas resources of the Arctic are estimated to be approximately 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids.

Province	Oil (BBL)	Natural Gas (Tcf)	Natural Gas Liquids (BBL)
Arctic Alaska	10,000,000,000	1,000,000,000,000	100,000,000,000
Amerasia Basin	8,000,000,000	800,000,000,000	80,000,000,000
East Greenland Rift Basins	6,000,000,000	600,000,000,000	60,000,000,000
East Barents Basins	5,000,000,000	500,000,000,000	50,000,000,000
West Greenland—East Canada	4,000,000,000	400,000,000,000	40,000,000,000
West Siberian Basin	3,000,000,000	300,000,000,000	30,000,000,000
East Barents Basins	2,000,000,000	200,000,000,000	20,000,000,000
Arctic Alaska	1,000,000,000	100,000,000,000	10,000,000,000

Table 1. Summary of Results of the Circum-Arctic Resource Appraisal.

**References**

Charpentier, R.R., Klett, T.R., and Attanasi, E.D., 2008, Database for assessment unit-scale analogs (exclusive of the United States): U.S. Geological Survey Open-File Report 2007-1404 [http://pubs.usgs.gov/of/2007/1404/].

USGS World Assessment Team, 2000, U.S. Geological Survey World Petroleum Assessment 2000-Description and Results: U.S. Geological Survey Digital Data Series - DDS60 [http://pubs.usgs.gov/dds/dds-060/].

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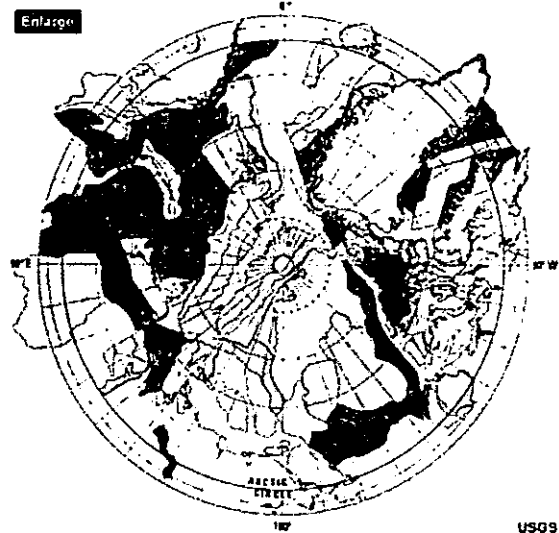


Figure 1. Assessment units (AUs) in the Circum-Arctic Resource Appraisal (CARA) color-coded by assessed probability of the presence of at least one undiscovered oil and/or gas field with recoverable resources greater than 50 million barrels of oil equivalent (MMBOE). Probabilities for AUs are based on the entire area of the AU, including any parts south of the Arctic Circle.

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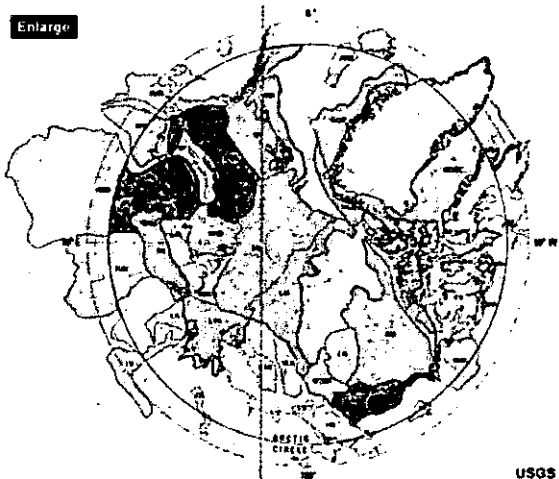


Figure 2. Provinces in the Circum-Arctic Resource Appraisal (CARA) color-coded for mean estimated undiscovered gas. Only areas north of the Arctic Circle are included in the estimates. Province labels are the same as in table 1.

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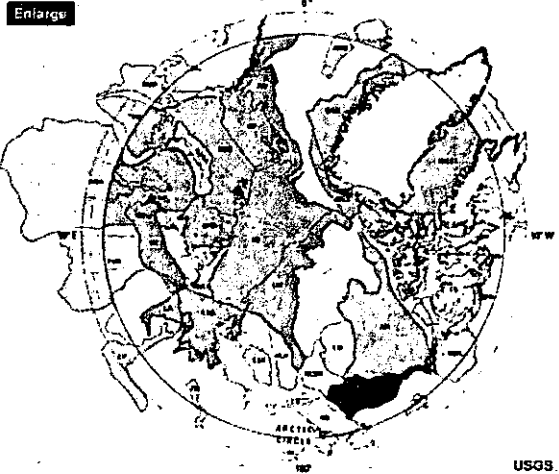


Figure 1. Assessment units (AUs) in the Circum-Arctic Resource Appraisal (CARA) color-coded by assessed probability of the presence of at least one undiscovered oil and/or gas field with recoverable resources greater than 50 million barrels of oil